CLARK COUNTY ENVIRONMENTAL SERVICES

Environmental Permit Decision (Type II)

☒ **Habitat Permit** **(CCC 40.440)**
☒ **Wetland Permit** **(CCC 40.450)** Form ES232 *revised 2/17/11*

Project Name: **Salmon Creek Interchange**

Case Number(s): **HAB2010-00049, WET2010-00044**

Location: **Project Site**: The project site is located at the Northernmost limit at 1-5 MP9.51, The Southernmost limit is located at I-5 MP 6.95 and I-205 MP 36.07.

Mitigation Site: The site is located approximately 2,000 feet NE of the intersection of NE 152nd Street, East of I-5 and approximately 6.7 miles NE of the project site.

Request: The applicant is requesting a Habitat and Wetland Permit to improve mobility and safety by expanding the existing interchange at NE 134th Street to allow a direct connection with a new arterial at NE 139th Street.

Applicant:
Washington State Department of Transportation
Barbara Aberle
P.O. Box 1709
Vancouver, WA 98668-1709
360.905.2186
Fax: 360.905.2218
aberleb@wsdot.wa.gov

Contact Person:
Washington State Department of Transportation
Scott Smithline
P.O. Box 1709
Vancouver, WA 98668-1709
360.905.2169
Fax: 360.905.2218
smithls@wsdot.wa.gov

Property Owner: Washington State Department of Transportation

Decision: **APPROVAL**, with conditions

Review Biologist: GF **George Fornes** **Date:** March 18, 2011

Other Environmental Review Staff:

Role	Name	Phone Ext.	E-mail Address
Responsible Official	Karen Streeter	4953	*karen.streeter@clark.wa.gov*
Environmental Review Coordinator:	Travis Goddard	4180	*travis.goddard@clark.wa.gov*
Lead Biologist:	Brent Davis	4152	*brent.davis@clark.wa.gov*

Legal Description of Property:

Project Site: SW and NW Quarter of Section 14, SW and NW Quarter of Section 23, SW Quarter of Section 25, SE, NE, and NW Quarter of Section 26, Township 3 North, Range 1 East, WSDOT Right of Way

Mitigation Site: SW Quarter and NW Quarter of Section 13 – Parcel Numbers: 194785-0000, 194849-000, 194856-000, 194857-000, 194858-000, 194861-000, 194851-000, 194859-000

Applicable Laws:

Clark County Code Chapters 40.440 (Habitat Conservation), 40.450 (Wetland Protection), and 40.510 (Procedures)

Neighborhood Association/Contact:

Greater Brush Prairie Neighborhood Association, Sam Kim, President, 14915 NE 126 Avenue, Brush Prairie, WA 98606, 896-7119, E-mail: brushprairie@comcast.net

North Salmon Creek Neighborhood Association, Paul Scarpelli, President, 515 NW 147th Street, Vancouver, WA 98685, Phone: 524-2624,
E-mail: nscna+president@salmoncreeklive.com

Fairgrounds Neighborhood Association, Bridget Schwarz, President, 2110 NW 179 Street Ridgefield, WA 98642, 573-5873, E-mail: bridget@bridge-i-t.com

Vesting:

An application is reviewed against the land development codes in effect at the time a fully complete application for is submitted. If a pre-application conference is required or requested and vesting criteria are met, the application shall contingently vest on the date the fully complete pre-application is filed. Contingent vesting requires that a fully complete application for substantially the same proposal is filed within 180 calendar days of the date the county issues its pre-application conference report.

The application was submitted on December 8, 2010 and determined to be fully complete when additional materials were submitted on February 8, 2011. Given these facts the application is vested on February 8, 2011.

There are no disputes regarding vesting.

Time Limits:

The application was determined to be fully complete on February 8, 2011. The applicant submitted additional information on February 24 which extended the deadline by 12 days. Therefore, the County Code requirement for issuing a decision within 78 days lapses on May 9,

2011. The Washington State requirement for issuing a decision within 120 calendar days lapses on June 20, 2011.

Public Notice:

Notice of application was mailed to the applicant, the Greater Brush Prairie Neighborhood Association, the North Salmon Creek Neighborhood Association, the Fairgrounds Neighborhood Association and property owners within 300 feet of the project site and 500 feet of the mitigation site on February 15, 2011.

Public Comments:

On February 16, 2011 staff received a phone call from Jan Vis of HAG LLC, 600 NE 78th St., Vancouver, WA 98665, who expressed general support of the project.

On February 18, 2011 staff received a phone call from Carl Hawker, 16106 NE 152nd Ave., Brush Prairie, WA 98606, who expressed concerns over potential future changes in the value of his property as a result of the proposed mitigation. Staff was unable to address Mr. Hawker's concerns over the telephone and set an appointment to meet with Mr. Hawker to go over the proposal at 9 am March 2. Mr. Hawker did not show up for the appointment, nor did he submit written comments prior to the end of the public comment period.

Staff Response: The proposed mitigation work is across NE 152nd Ave from Mr. Hawker's property, approximately 1,200 feet away on the other side of an existing forest. No work is proposed on Mr. Hawker's property or on NE 152nd Ave. WDOT crews will access the mitigation site from NE 159th St. Wetland staff is not able to predict future trends in land value, which are beyond the scope of this review.

On February 28, 2011 staff received an email from Thomas Meyer, DVM, Mountain View Veterinary Hospital, 13914 NE 16th Ave., Vancouver, WA 98685 (Exhibit 12). Dr. Meyer raises a number of concerns including:

1. Potential adverse impacts on the movement of water from his property across the proposed construction area (Wetland J),
2. Potential adverse impacts on access to parcel 185796-000, owned by Thomas & Jean Meyer.

Staff Response: The applicant has been provided with a copy of Dr. Meyer's letter. It is the opinion of staff that the proposed construction will not significantly alter the hydrology of Wetland J. Conditions will be imposed to assure that this is the case (see Wetland Finding 8 and Condition W-3). Access to parcel 185796-000 is beyond the scope of this review.

Project Overview

The applicant is requesting a Habitat and Wetland Permit to improve mobility and safety by expanding the existing interchange at NE 134th Street to allow a direct connection with a new arterial at NE 139th Street. The project will have some temporary and some permanent impacts to wetlands, wetland buffers, and riparian zones. Mitigation for unavoidable impacts will occur off-site, approximately 6.7 miles NE of the project site, approximately 2,000 ft northeast of the intersection of NE 159th St and NE 152nd Ave. The mitigation strategy involves preservation of existing wetland, creation of new wetland and wetland buffer, and enhancement of existing wetland.

Staff Analysis

Staff reviewed the proposal for compliance with applicable code criteria and standards in order to determine whether all potential impacts could be mitigated through application of the code.

Staff's analysis also reflects review of agency and public comments received during the comment period, and knowledge gained through a site visit.

Major Issues:
Only major issues that require conditions and/or revisions to the proposed plans to ensure compliance with the requirements of the Wetland Protection Ordinance (CCC 40.450) are discussed in detail below:

Habitat Review (CCC 40.440)

Finding 1 - The applicant provided a memo dated December 2, 2010, describing riparian zone status, proposed impacts, and proposed mitigation (see Exhibit 2: "Critical Habitat Memo" Tab). Several streams exist in the vicinity of the project area, including Salmon Creek, Rockwell Creek, Whipple Creek, and two unnamed tributaries to Whipple Creek. No in-water work is proposed. The proposed project will have the following impacts to riparian zones of regulated streams:

Stream Name	DNR Stream Type	Reach Name	Riparian Zone Width (ft)	Temporary Impacts (acres)	Permanent Impacts (acres)
Whipple Creek	F	RIP1	200	0.23	0.1
Tributary to Whipple Creek	Ns	RIP2	75	0.17	0
Rockwell Creek	F	RIP3	200	0.02	0
			Total	0.42	0.1

Finding 2 - The majority of the temporary impacts described in Finding 1 above are for the construction of stormwater facilities. These impacts are considered temporary in nature and are considered self-mitigating because:

a) The areas to be impacted currently have degraded habitat value, and

b) The areas will have increased hydrologic and water quality functions once the stormwater facilities are built, and

c) The areas will be vegetated with native woody species following construction, increasing their value as habitat.

Finding 3 - The permanent impacts described in Finding 1 above are associated with stormwater facility access/outfall construction. The 0.1 acre impact area is located on the outer edge of the riparian zone in an area currently having

degraded habitat value. The proposed mitigation is off-site, approximately 2,000 feet northeast of the intersection of NE 152nd Ave and NE 159th St, which is approximately 6.7 miles NE of the project site (see Exhibit 6/9: "Final Mitigation Report" Tab: Figure 13). The mitigation site is a large wetland complex within which the applicant will preserve existing wetland, create new wetland, and enhance existing wetland. The proposed 0.48 wetland enhancement portion of the mitigation site is in the vicinity of a riparian zone (unnamed tributary flowing to Salmon Creek). This portion of the proposed mitigation will be adequate to offset impacts to the riparian zones at the project site if certain conditions are met.

Wetland Review (CCC 40.450)

Finding 1 - Under this wetland permit and a previous wetland permit (WET2010-00015), wetland boundaries and ratings have been verified by the US Army Corps of Engineers, Washington Department of Ecology, and Clark County Staff. The wetlands and wetland buffers are mapped correctly in the "Final Critical Area Mitigation Report" prepared by WSDOT SW Region, dated February 2011, incorporating USACE and DOE comments 2-22-2011 (Exhibit 6/9: "Final Mitigation Report" Tab: Figure 5 and Appendix A).

Finding 2 - The applicant proposes to permanently impact 4.12 acres of wetland, including 2.96 acres of Category II wetland. The applicant has previously completed an extensive alternatives analysis through the NEPA process to establish the need for and minimization of impacts to Category II wetlands. Under the "Correspondence" tab in Exhibit 1, the applicant provides verification that the project is in the public interest as demonstrated by its inclusion in the County's most current adopted Transportation Improvement Plan. Therefore the proposed impact to Category II wetlands meets the standards in 40.450.040(D)(1)(a)(1) and can be authorized.

Finding 3 - Under CCC 40.450.040(D)(2)(b), if wetland mitigation for unavoidable impacts cannot occur on-site, the next preference is to locate the mitigation within the same watershed as the impact. The impact is within the Salmon Creek watershed. The proposed mitigation is off-site, approximately 2,000 feet northeast of the intersection of NE 152nd Ave and NE 159th St, which is approximately 6.7 miles NE of the project site (see Exhibit 6/9: "Final Mitigation Report" Tab: Figure 13). The mitigation area straddles the mapped boundary between the Salmon Creek watershed and the Lacamas Creek watershed. However the entire mitigation area does drain to Salmon Creek despite the mapped watershed boundary (see Exhibit 10). Staff finds that the mitigation area meets the criteria of CCC 40.450.040(D)(2)(b).

Finding 4 - The proposed construction will require wetland and wetland buffer impacts, as summarized below:

Wetland Category	Permanent Impact (acres)	Temporary Impact (acres)	Buffer Impact (acres)
2	2.96	1.57	0.35
3	0.31	0	0.75
4	0.85	0	0
Total	4.12	1.57	1.1

The proposed mitigation includes preservation of 17.46 acres of existing wetland. Preservation is allowed as a mitigation strategy if certain criteria as listed under CCC 40.450.040(D)(4)(b)1-5 are met. Staff finds that criteria 1, 2, and 4 are met. The preservation wetland is Category II, over an acre in size, and is not an existing mitigation site. An easement has been purchased by the applicant covering the preservation area; criteria 3 can be met if the easement gives the county clear regulatory and enforcement authority to protect existing wetland and wetland buffer functions with standards that exceed the protection standards of the wetland protection ordinance. Criteria 5 (ratios) has been met, see discussion below.

The proposed mitigation also includes 11.3 acres of wetland creation, and 0.48 acres of enhancement of existing wetland, and designating/enhancing 3.95 acres of new wetland buffer area.

The proposed mitigation represents ratios that meet the requirements of county code (CCC Tables 40.450.040-1 and 2). However the applicant is proposing to use reduced mitigation ratios, so that there will be additional mitigation credit left over to apply to future projects. Under CCC 40.450.040(D)(4)(c), staff has the authority to reduce wetland mitigation ratios under some circumstances, including when "Documentation by a qualified wetland specialist demonstrates that the proposed actions for compensation will provide functions and values that are significantly greater than the wetland being affected." The applicant has provided documentation in which staff wetland biologists of the US Army Corps of Engineers and the Washington State Department of Ecology have proposed and approved wetland mitigation ratios lower than the county's standards (see Exhibit 4). County staff accepts this documentation to meet the criteria of CCC 40.450.040(D)(4)(c). Therefore the following mitigation ratios will apply to this project:

Mitigation Strategy	Category of Impacted Wetland	Required Mitigation Ratio
Creation (when combined with Preservation)	All	1:1
Preservation (when combined with creation)	All	10:1
Creation Only	II	3:1
Creation Only	III	1.5:1
Creation Only	IV	1:1
Enhancement Only	IV	4:1

Staff finds that given these reduced mitigation ratios, the proposed mitigation is adequate to compensate for the proposed impacts to wetlands.

Finding 5 - As noted above, the proposed construction will impact 1.1 acres of wetland buffer. Under CCC 40.450.040(C)(5), crossing buffers with new roads and utilities is allowed if buffer functions are replaced and impacts are minimized. Staff finds that these criteria have been met. The habitat scores of the two wetlands with impacted buffers (Wetland J and Wetland D) are both low, so the buffer size is meant to protect water quality functions (CCC Table 40.450.030-2). The proposed construction includes several stormwater facilities which will improve the on-site water quality and storage functions of the system. Furthermore the proposed mitigation includes the designation and enhancement of 3.95 acres of new wetland buffer which will provide greater functions, further up-gradient in the watershed, than the wetland buffers being impacted. Staff finds that the proposed mitigation is adequate to compensate for the proposed impacts to wetland buffers.

Finding 6 - The proposed mitigation is in excess of the amount of mitigation required to offset the impacts of the proposed project. The applicant has expressed the intent to apply the excess mitigation to other projects in the future. Advance mitigation is allowed and may justify reduced mitigation ratios under CCC 40.450.040(D)(4)(c)(3) if certain conditions are met (see below).

Finding 7 - The applicant has provided:

a) Final Mitigation Plan, satisfying CCC 40.450.040(I)(1)(a), and

b) Recorded conservation easement for the Cedars Mitigation Site (see Exhibit 1), satisfying CCC 40.450.040(I)(1)(c), and

c) "Letter of Commitment" to complete the mitigation including monitoring, maintenance, and contingency plans (see Exhibit 6/9), satisfying CCC 40.450.040(I)(1)(d).

Therefore, the requirement for a Final Wetland Permit can be waived provided that:

1. The applicant has appropriate field markings in place prior to construction of the proposed Salmon Creek Interchange improvements.

Finding 8 - Public comment from Dr. Meyer indicated a concern about maintenance of the existing hydrology of Wetland J. The applicant proposes to maintain water flow by, "...maintaining the existing ditch line adjacent to his property or by realignment of the ditch within the NE 139th St corridor, construction of a bridge over a portion of the large category II wetland that extends across Mr. Meyers property, Clark County right of way, and the adjacent property to the south, and restoration of wetland surface contours and flow lines following removal of temporary access and work platforms near the new 139th St. alignment. (see Exhibit 13, and Exhibit 6: "Final Mitigation Report" Tab, Chapter 4.3.2)." Staff finds that the applicant's proposal will be adequate to maintain wetland hydrology if certain conditions are met.

Conclusion:

Based upon the development site characteristics and the proposed development plan, staff concludes that the proposed preliminary land division, site plan, habitat permit, and preliminary wetland permit applications comply with the requirements of the Habitat Conservation and Wetland Protection Ordinances PROVIDED that certain conditions (listed below) are met. Therefore, the requirements of the preliminary plan review criteria are satisfied.

Decision

Based upon the proposed plan (identified as Exhibit 6/9: "Revised Drawings" Tab and "Final Mitigation Report" Tab), and the findings and conclusions stated above, the Environmental Review Coordinator **APPROVES** this request, subject to the understanding that the applicant is required to adhere to all applicable codes and laws, and is subject to the following conditions of approval:

Conditions of Approval

G General Conditions

G-1 Except as amended herein, the applicant shall implement the proposed "Final Critical Area Mitigation Report" prepared by WSDOT SW Region, dated February 2011, incorporating USACE and DOE comments 2-22-2011 (Exhibit 6/9).

G-2 Monitoring review for each year it is required (Years 1, 3, 5, 7, and 10) may occur under a single monitoring permit for each year, rather than separate monitoring permits for habitat and wetland review.

H Habitat Permit Conditions

H-1 **Expiration** - Habitat Permit approval shall be valid for a period of 4 years from the date of issuance of the Final Order or completion of any subsequent appeal proceedings.

W Wetland Permit Conditions

W-1 Expiration - Wetland Permit approval shall be valid for a period of 4 years from the date of issuance of the Final Order or completion of any subsequent appeal proceedings.

W-2 Prior to as-built approval of the mitigation site, the applicant shall submit a ledger documenting the amount of mitigation opportunity used and still available at the mitigation site. The document shall be recorded with the County Auditor. Such documentation will serve to inform future application of advance mitigation at the site to future projects (see Finding 6).

W-3 The maintenance/monitoring plan shall include a performance standard to ensure that the movement of water within Wetland J from 13914 NE 16th Ave. across the project site is not altered, as well as a contingency plan outlining actions to correct the flow if it is altered (see Finding 8). Monitoring for assurance of this performance standard shall not require access to 13914 NE 16th Ave.

W-4 Final Wetland Permit – Final Wetland Permit approval may be waived if the following conditions are met:

a. Standard conditions (see conditions under W-5 below) for the Salmon Creek Interchange construction site shall be met;

W-5 Standard Conditions – The following standard conditions shall apply:

a. *Marking Buffer During Construction* - Prior to construction, the location of the outer extent of the wetland buffer shall be marked in the field and such markings shall be maintained throughout the duration of the permit.

b. *Conservation Covenant* - prior to December 31, 2011, a draft conservation covenant that runs with the land and requires that the wetlands and buffers remain in their natural state submitted the Department of Environmental Services for approval. Within 14 calendar days of receipt of Department of Environmental Services approval to record, the applicant shall obtain signature from the County Prosecuting Attorney, record the approved covenant with the County Auditor and submit a copy of the recorded covenant to the Department of Environmental Services. This condition may be waived or modified with approval of alternate protective documentation by the County Prosecuting Attorney. The covenant or alternate documentation shall authorize representatives and agents of Clark County to make reasonable entry into the mitigation site.

c. *Permanent Physical Demarcation* - Prior to completion of construction, permanent physical demarcation along the upland boundary of the wetland buffer area shall be installed and thereafter maintained. Such demarcation may consist of logs, a tree or hedge row, fencing, or other prominent physical marking approved by the responsible official. In addition, small signs shall be posted at an interval approved by the Environmental Services Manager, and perpetually maintained at locations along the outer perimeter of the wetland buffer approved by the responsible official worded substantially as follows:

Wetland and Buffer –
Please retain in a natural state

Note: The Director of the Department of Environmental Services reserves the right to provide additional comment and findings of fact regarding this decision, if appealed.

Appeal Rights:

Any aspect of this Type I decision may be appealed by the applicant, or any other Party of Record, to the County Hearing Examiner. The only opportunity for any Party of Record to appeal this Monitoring Review Decision is within the appeal period identified below.

Appeals must be filed with the Department of Community Development, Permit Services Center, 1300 Franklin Street, Vancouver, Washington, 98668, within fourteen (14) calendar days from the date the notice of final land use decision is mailed to the applicant. This decision was mailed on March 18, 2011. Therefore **any appeal must be received** at the Permit Services Center **by 12:00 PM, April 1, 2011**.

An appeal of this wetland determination shall be in writing and contain the following:

- Case number designated by the County;
- Name of the applicant;
- Name of each petitioner;
- Signature of each petitioner or his or her duly authorized representative;
- A statement showing the following:
  - That each petitioner is entitled to file the appeal as an interested party in accordance with CCC 40.510.030(H);
  - The specific aspect(s) of the decision being appealed;
  - The reasons why each aspect is in error as a matter of fact or law;
  - The evidence relied on to prove the error; and,
- The appeal fee of **$1,166**.

Department of Community Development, Permit Service Center hours: 8:00 AM to 12:00 PM Monday, Tuesday, Thursday, or Friday; and 10:00 AM to 4:00 PM Wednesday. The fee shall be refunded if the appeal is withdrawn in writing by the petitioner at least 15 calendar days before the public meeting to consider the appeal.

The file for this Environmental Permit Decision can be reviewed at:

Public Service Center
Department of Environmental Services
1300 Franklin Street
P.O. Box 9810
Vancouver, WA. 98666-9810
Phone: (360) 397-2121

A copy of the Clark County Code is also available on our Web Page at:
http://www.clark.wa.gov

Attachments:

1. Selected figures and pages from "Final Critical Area Mitigation Report" prepared by WSDOT SW Region, dated February 2011, incorporating USACE and DOE comments 2-22-2011 (Exhibit 6/9)
2. Exhibit List

H:\Enhancement and Permitting\ENVIRONMENTAL REVIEW\Wetland Review\Wetland Permits\2010\WET2010-00044 (SCIP)\WET2010-00044, HAB2010-00049 (SCIP) Staff Report.doc

Figure 5. Wetland and Buffer Impact Locations and Acreages.

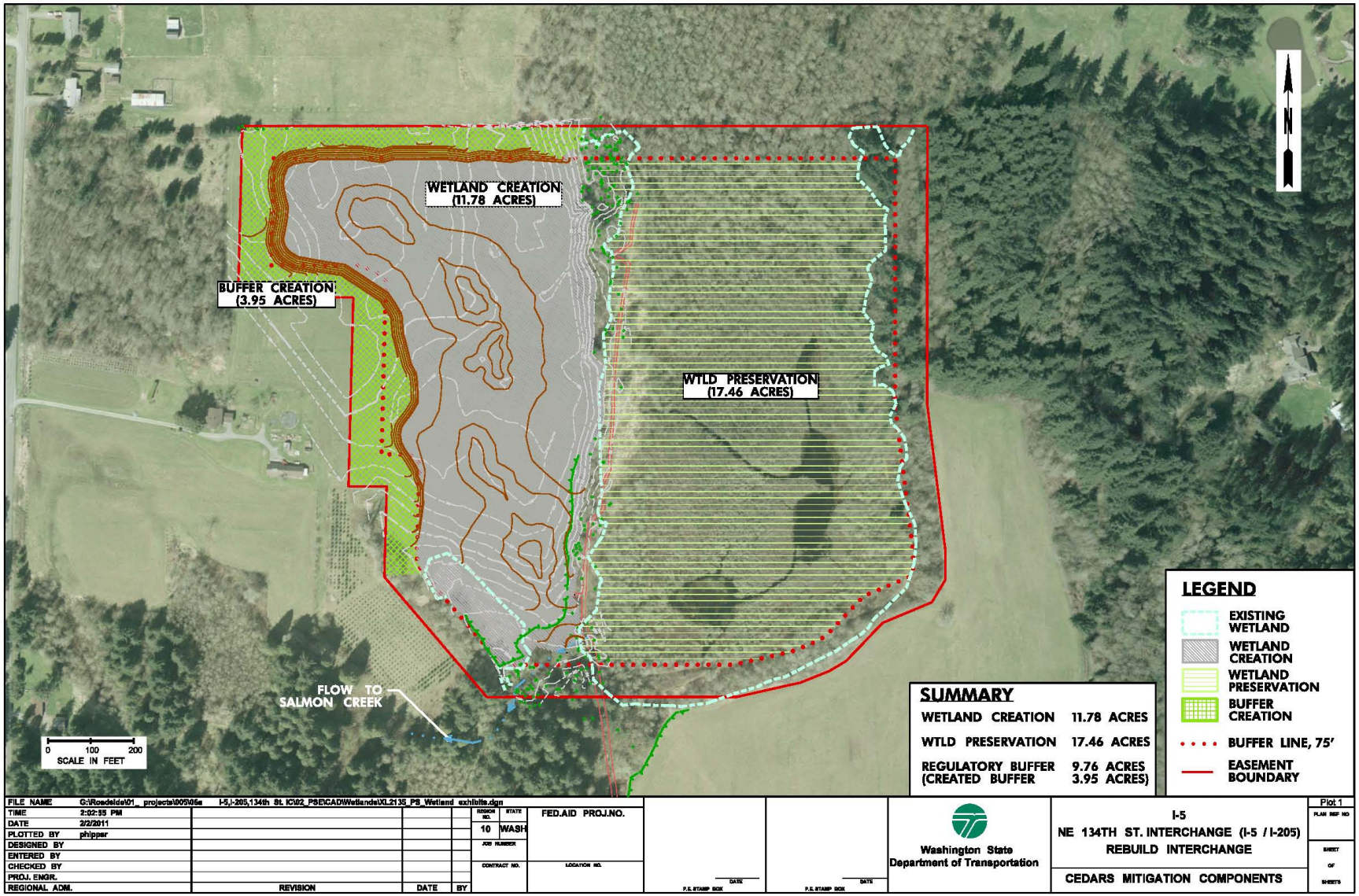

Figure 13. Cedars mitigation components and acreage.

Chapter 6. Mitigation Goals, Objectives, and Performance Criteria

The proposed Cedars mitigation site will be monitored for 10 years to demonstrate that the intended functions are established. Goals describe the overall intent of mitigation efforts, and objectives describe individual components of the mitigation site in detail. Performance measures and performance standards describe specific on-site characteristics that indicate a function is being provided. Performance measures are used to guide management of the mitigation site. Performance standards are used to evaluate compliance with regulatory permits in the final year of monitoring. Contingency plans describe what actions can be taken to correct site deficiencies. The performance standards of the mitigation will be determined following completion of the mitigation design.

WSDOT uses the adaptive management process to improve mitigation success. Adaptive management involves learning from monitoring and implementing management activities, such as implementing parts of the site management or contingency plans. Information from monitoring is used to direct subsequent site management activities.

6.1 Goals

The goal of the proposed compensatory mitigation is to replace and enhance wetland types, acreage, and functions which will be lost due to wetland impacts associated with the proposed project. The proposed mitigation intends to create a depressional PFO/PSS/PEM wetland complex within the Salmon Creek watershed. The wetland mitigation site is anticipated to provide the following functions:

- Provide flood flow attenuation and headwater storage
- Provide opportunities for nutrient and sediment removal
- Provide general forested wetland habitat

6.2 Objectives

The following list of objectives describes the proposed mitigation at the Cedars Wetland Mitigation Site:

1. Increase wetland area at the Cedars mitigation site by excavating the upland areas to create 11.78 acres of wetland and by preserving 17.46 acres of existing wetland *(6.72 acres of the newly created wetland will be used as mitigation for this project, and the remainder will apply to future WSDOT projects within the Salmon Creek watershed)*.
2. Provide suitable hydrology for the creation of 11.78 acres of wetland.
3. Develop site topography to create approximately 11.78 acres of wetland.

4. Provide wetland function by creating and enhancing a mosaic of emergent, scrub shrub, and forested wetland types, and the establishment and enhancement of buffer zones by promoting the development of dense native plant communities.
5. Promote the development of native wetland plant communities by limiting the growth and spread of noxious and nuisance vegetation, including Reed Canarygrass.

6.3 Performance Criteria

The performance standards described below provide benchmarks for measuring achievement of the goals and objectives of the mitigation *s*ite. Mitigation activities are intended to meet these performance standards within a specified time frame. The performance standards are based on function characteristics described in *Method for Assessing Wetland Functions* (Hruby et al. 1999). These function-based performance standards measure structural attributes that provide a reasonable indication of wetland functions. Methods to monitor each performance standard are described in general terms. Monitoring of mitigation success standards begins immediately following initial planting with the collection of baseline data and initial (year 1) survival standards.

Objective 1: *Create approximately 11.78 acres of new wetland which may include emergent, scrub shrub, and/or forested communities. 6.72 acres of the newly created wetland will be used as mitigation for this project, and the remainder will apply to future WSDOT projects within the Salmon Creek watershed.*

Performance Standards	*Monitoring Methods*
1A. Interim Performance Measure *Wetlands will be delineated at monitoring year 5 to assess the development of estimated wetland conditions and the development of Cowardin vegetation classes.*	*Conduct wetland delineation using current USACE methodology, the Washington State Wetland Delineation Manual (WDOE, 1997), and applicable supplements at year 5. Conduct visual acreage assessments of Cowardin vegetation classes.*
1B. Success Standard *(final year of monitoring) At monitoring year 10, the wetland area will be delineated to demonstrate that the mitigation site contains 11.78 acres of total wetland in compliance with the estimated acreages of Objective 1. Visual acreage estimates of the various Cowardin vegetation classes will be conducted to document the aerial extent of various Cowardin vegetation classes.*	*Conduct wetland delineation using current methods at year 10 to provide documentation of wetland acreage and make visual observations of Cowardin vegetation classes.*

Contingency: If surveyed wetland acreages fall short of the estimated acreages of Objective 1 at year 10, WSDOT will consult the various resource agencies for the development of appropriate adaptive management or remedial procedures.

Objective 2: Provide suitable hydrology for the creation of 11.78 acres of wetland at the Cedars mitigation site.

Performance Standards	*Monitoring Methods*
2A. Interim Performance Measure *The soils will be saturated to the surface, or standing water will be present 12 inches or less below the surface for at least 10% of the growing season (growing season as defined in the Soil Survey of Clark County, WA., USDA, 1972) in years when rainfall meets or exceeds the 30-year precipitation average.*	*Conduct field reviews of wetland hydrology including visual observations, photographs, and/or documentation of primary hydrologic indicators (using current delineation methods) during years with formal monitoring. Install a series of shallow groundwater monitoring devices to provide continuous data (hydrographs) of groundwater and surface water conditions at selected locations in the mitigation site.*
2B. Success Standard *(final year of monitoring) At monitoring year 10, the wetland will be delineated using current methods and visual documentation provided to assure that the site contains a minimum of 11.78 acres of total wetland.*	*Conduct wetland delineation using current USACE methodology, the Washington State Wetland Delineation Manual (WDOE, 1997), and applicable supplements at year 10 to provide documentation of wetland acreage and hydrology.*

Contingency: If surveyed wetland acreages fall short of the estimated acreages of Objective 2 at year 10, WSDOT will consult the various resource agencies for the development of appropriate adaptive management or remedial procedures.

Objective 3: Develop site topography to create approximately 11.78 acres of wetland at the Cedars mitigation site.

Performance Standards	*Monitoring Methods*
3A. Success Standard *The site will be graded consistent with the draft grading plan* (Appendix B), *to support approximately 11.78 acres of wetland.*	*As-built grading plans and photographic documentation will be submitted within year 1. As-built grading plans will also include the location of habitat structures, photo documentation points, and monitoring wells.*

Objective 4: Provide wetland function by creating emergent, scrub shrub, and forested wetland, and the establishment and enhancement of buffer zones at the Cedars mitigation site by promoting the development of dense native plant communities.

Performance Standards	*Monitoring Methods*
4A Success Standard *The wetland mitigation sites will be planted in accordance with the Revegetation Concept, Appendix B.*	*As-built plans documenting that the mitigation sites have been planted according to the planting plan will be submitted within year 1.*

4B Success Standard *At monitoring year 1, there will be a minimum survival rate of 90% in area identified on the Revegetation Concept as Forested, Scrub Shrub, Emergent, and Buffer areas.*	*Conduct major plant assessment of contract-installed vegetation (plant counts based on as-built plans).*
4C Success Standard *At monitoring year 3, there will be a minimum density of native woody vegetation (planted and volunteer) in Forested, Scrub Shrub, and Buffer areas as follows:* *<u>Native Woody Species</u> (planted and volunteer)* • *minimum density of 4,000 living native woody species per acre.* • *at least 6 species of native trees and/or shrubs will be present in the native woody species areas (forested, scrub shrub, and buffer areas).*	*Use current monitoring protocols (see Monitoring Plan) to determine density (number of living woody species per acre) and species diversity in scrub shrub, forested, and buffer areas.*
4D Success Standard *At monitoring year 5 and 7, minimum cover of native woody vegetation (planted and volunteer) in Forested, Scrub Shrub, and Buffer areas as follows:* *<u>Monitoring Year 5</u>* • *minimum 30% cover of native woody vegetation (planted and volunteer).* • *at least 5 species of native trees and/or shrubs will be present in the native woody species areas (forested, scrub shrub, and buffer areas).* *<u>Monitoring Year 7</u>* • *minimum 40% cover of native woody vegetation (planted and volunteer).* • *at least5 species of native trees and/or shrubs will be present in the native woody species areas (forested, scrub shrub, and buffer areas).*	*Use current monitoring protocols (see Monitoring Plan) to determine density (number of living woody species per acre) and species diversity in scrub shrub, forested, and buffer areas.*
4E. Success Standard *At monitoring year 3, 5, and 7, there will be a minimum percent cover of native emergent vegetation in emergent areas (Cedars mitigation site AND temporary impact areas within WSDOT RW) as follows:* • *Year 3 - minimum of 40% aerial cover of native facultative wet and wetter species within the emergent zone.*	*Use current monitoring protocols (see Monitoring Plan) to determine percent cover of native emergent vegetation in the emergent areas.*

• *Year 5 - minimum of 50% aerial cover of native facultative wet and wetter species within the emergent zone.* • *Year 7 - minimum of 60% aerial cover of native facultative wet and wetter species within the emergent zone.*	
4F. Success Standard *(final year monitoring)* *At monitoring year 10, there will be a minimum cover of native vegetation (planted and volunteer) as follows:* *<u>Native Woody Species</u> (planted and volunteer)* • *minimum 60% cover of native woody vegetation (planted and volunteer).* • *at least 4 species of native trees and/or shrubs will be present in the native woody species areas (forested, scrub shrub, and buffer areas).* *<u>Native Emergent Species</u> (planted and volunteer)* • *minimum 70% cover of native emergent vegetation (planted and volunteer).* • *at least 3 species of native herbaceous wetland species will be present in emergent zones.*	*Use current monitoring protocols (see Monitoring Plan) to determine density (number of living trees per acre) and species diversity in scrub shrub, forested, and buffer areas.*

Contingency: If the monitoring reports indicate insufficient establishment and/or plant survival, those areas not meeting current-year standard(s) will be replanted to bring them in compliance with the failing current-year standard(s).

<u>Objective 5:</u> Promote the development of native wetland plant communities by limiting the growth and spread of noxious and nuisance vegetation, including Reed Canarygrass.

Performance Standards	*Monitoring Methods*
5A. Performance Standard *Conduct a pre-construction survey of the existing extent of invasive vegetation at the Cedars mitigation site and temporary wetland impact areas including Reed Canarygrass, Blackberry Species, and Japanese Knotweed, to establish a baseline for invasive species monitoring and management at years 1, 3, 5, 7, and 10.*	*Provide photographic and map (GPS or notations on plan sheets) documentation of existing stands of Reed Canarygrass, Blackberry species, and Japanese Knotweed.*

5B. Performance Standard *At monitoring years 1, 3, 5, 7, and 10, Invasive Species will be managed as follows:* *The aerial extent of Blackberry Species and Class B (WA Dept of Agriculture and Clark County Weed Board) noxious weeds will not exceed 15% in the combined emergent, scrub shrub, forest, and buffer planting areas at the mitigation site.* *Class A Noxious weeds, Japanese Knotweed, Purple Loosetrife – all areas* *If/when detected, Class A Noxious Weeds (WA Dept. of Agriculture and Clark County), Japanese Knotweed, and Purple Loosetrife shall be treated so that the species do not exist on the site.* *Reed Canarygrass – Temporary wetland impact areas* *The aerial extent of Reed Canarygrass at the temporary impact areas will be managed at a threshold 10% below the existing baseline conditions established in Performance Standard 5A in all years.* *Reed Canarygrass – Cedars Mitigation Site, created wetland area only.* *At monitoring years 1, 3, 5, and 7, the aerial extent of Reed Canarygrass at the Cedars mitigation site shall not exceed 20% total cover in the wetland creation areas* *In monitoring year 10 (final year of monitoring), Reed Canarygrass will exist as an understory component that does not out compete the dominant native tree and shrub species or exceed 30% total aerial cover.*	*Observe and map (notations on plan sheets) locations of Reed Canarygrass, Blackberry Species, and Japanese Knotweed as part of annual vegetation surveys using current monitoring techniques. For larger stands, GPS measurements of stand perimeters will be provided to measure the extent of change over time. Observations will form the basis of on-going site management and integrated vegetation management activities.*

Contingency: Implement a long-term integrated vegetation management plan to maintain the aerial extent of invasive species at or below the established thresholds. Weed management activities may be conducted in all monitoring years.

6.4 Monitoring

The monitoring objective for the mitigation areas is to achieve the prescribed standards unless WSDOT, in consultation with the regulatory agencies, establish replacement standards based on circumstances and conditions observed at the mitigation site.

A monitoring plan will be developed that addresses the success standards listed in this plan. The site will be monitored in years 1, 3, 5, 7, and 10 by the WSDOT Wetland Mitigation

Monitoring Program to evaluate compliance with performance standards, formal monitoring. In formal monitoring years, years 1, 3, 5, 7, and 10, reports of the formal monitoring will be prepared and submitted both to the Corps of Engineers and Ecology. Additional monitoring will occur in intervening non-report years in order to inform and guide site development activities, informal monitoring. Successful mitigation will be measured by attainment of the performance standards described in the mitigation plan.

The Wetland Mitigation Monitoring Program uses objective-based monitoring to document the condition of WSDOT's wetland mitigation sites. Monitoring protocols are selected based on objectives specified in the mitigation plan, and evaluation of current site conditions. Quantitative data collection techniques presently in use are based on standard ecological and biostatistical methods described in Bonham (1989), Elzinga et al. (1998), Krebs (1999), Zar (1999), and other sources. The Wetland Program's current monitoring methods include the key concepts of objective-based monitoring, adaptive management, and statistical rigor. Quantitative monitoring methods employed involve sample size analyses and may include the point-line, point-frame, quadrat, and line-intercept methods as defined by the works cited above.

Formal and informal monitoring of the mitigation site will occur over the 10-year monitoring period. Table 23 lists the monitoring schedule for the mitigation site. Successful mitigation will be measured by attainment of the performance standards described in this mitigation plan document. Monitoring and establishment/contingency activities will cease as soon as all success standards have been attained.

Table 19. Monitoring Schedule.

Monitoring Year	*Type of Monitoring*	
	Formal	*Informal*
1	Yes	quarterly site visits
2	No	quarterly site visits
3	Yes	quarterly site visits
4	No	quarterly site visits
5	Yes	quarterly site visits
7	Yes	quarterly site visits
10	Yes	quarterly site visits

Table 20. Monitoring Report Recipients.

Permitting Agency or Organization	Contact Name and Address
U.S. Army Corps of Engineers	Sandra Manning Department of The Army Seattle District, Corps of Engineers P. O. Box 3755 Seattle, WA 98124-3755 (206) 764-6911 Cell 360-280-9262 Sandra.L.Manning@usace.army.mil
Department of Ecology	Kerry Carroll Ecology HQ Lacey, WA kstr461@ecy.wa.gov (360) 407-7503
Clark County	Brent Davis Wetland Biologist - Wetland Permit Dept of Community Development 1300 Franklin St. PO Box 9810 Vancouver, WA 98666-9810 360.397.2375 ext 4152 Brent.Davis@clark.wa.gov

WSDOT has established a comprehensive set of monitoring methods that are based primarily on Elzinga *et al.* (1998). The actual methods used to monitor each site are documented in annual monitoring reports prepared by WSDOT's Wetland Assessment and Monitoring Program, which is based in the Environmental Services Office in Olympia, Washington. Some variation of the methods occurs as techniques are improved, or standards change.

6.5 Contingency Plan

WSDOT anticipates the mitigation goals will be accomplished with the construction and installation of the mitigation design as shown on the grading and planting plans. Contingency actions, however, may be needed to correct unforeseen problems. Contingency revisions typically require coordination with the permitting agencies.

As necessary, contingency measures (such as adaptive management options or revisions to performance criteria with permitting agency agreement) will be implemented to meet performance measures and performance standards. The following describes potential situations that may occur and the potential contingencies that might be implemented to correct the

problem. Because not all site conditions can be anticipated, the contingencies discussed below do not represent an exhaustive list of potential problems or remedies.

6.5.1. Hydrology

Hydrologic problems occurring on a mitigation site are typically the result of either insufficient water or excessive water. Insufficient water can occur seasonally during drought conditions or can be a long-term problem. Long-term problems can be the result of altered surface water flows on- or off-site for surface water driven wetlands. For groundwater driven mitigation sites, typical long-term hydrologic problems that result in either excessive or insufficient hydrology can occur from a design based on insufficient groundwater data, the establishment of incorrect final grade elevations, or an unperceived soil condition that alters groundwater flows. Hydrologic contingency measures will be implemented based on observed conditions or monitoring data. Steps to address insufficient or excessive hydrology are:

- Clearly identify the source of the problem.
- Consult with the mitigation design team, including members of Biology, Landscape Architecture, and Hydrology, and the resource agencies to determine an appropriate course of action.
- Adjust elevations or install water management structures to achieve appropriate hydrologic conditions.

6.5.2. Vegetation

Problems related to vegetation include plant mortality, and poor growth resulting in low plant cover. These problems could be the result of insufficient site management, particularly watering in the first few growing seasons, animal browse, competition from invasive species, incorrect plant selection, altered site conditions, and vandalism. Contingencies for plant mortality and poor plant cover may include:

- Plant replacement – Additional planting may be required to meet plant survival and plant cover requirements. Plant species will be evaluated in relation to site conditions to determine if plant substitutions will be required.
- Weed control – Control of non-native invasive species may be required to meet survival and plant cover requirements. Weed control methods could include mechanical or hand control, mulching, or herbicide application.
- Herbivore control – If plant survival or vegetation cover standards are not met because of animal browse, the wildlife responsible will be identified and appropriate control measures will be attempted. This could include plant protection, fence installation, or the use of repellents.
- Vandalism – To prevent vegetation disturbance from vandalism, fence installation and sensitive area signage may be installed.
- Review and revise performance criteria with permitting agency agreement.

6.5.3. Habitat Structures

Habitat structures will be installed during construction activities, and will be monitored to verify presence/absence. A contingency for wildlife structures is to:

- Replace or repair missing or damaged structures – If habitat structures become vandalized, are missing, or are functionally damaged, they will be repaired or replaced as necessary.

6.6 Site Management

WSDOT will manage the site annually for the first 10 years following initial construction and planting. Site management activities shall include noxious weed control and may include mulching, fertilizing, supplemental watering, maintaining access, repairing damage from vandals, correcting erosion or sedimentation problems, or litter pickup. The first year of plant establishment includes supplemental water and care of all replacement plants installed during the first year.

Chapter 7. References

Azous, A. L., M. B. Bowles, and K. O. Richter. 1998. Reference standards and project performance standards for the establishment of depressional flow-through wetlands in the Puget lowlands of western Washington. King County Department of Development and Environmental Services, Renton, WA.

Bonham, C.D, 1989. Measurements for Terrestrial Vegetation. John Wiley & Sons, New York, NY.

Brinson, M. M. 1993. A Hydrogeomorphic classification for wetlands. Technical Report WRP-DE-4. US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Clark County. 2006. Water Resource and Clean Water Program. http://www.clark.wa.giv/water-resources/index.html

Cowardin, L.M., V. Carter, F.C. Golet and E.T. Laroe. 1979. Classification of Wetlands and Deep Water Habitats of the United States. U.S. Fish and Wildlife Service. FWS/OBS 79/31.

Elzinga, C. L., D. W. Salzer, and J. W. Willoughby. 1998. Measuring and Monitoring Plant Populations. Bureau of Land Management Technical Reference 1730-1, BLM/RS/ST-98/005+1730.

EXHIBIT LIST

Project Name	**Salmon Creek Interchange Project**
Case Number	**HAB2010-00049 – WET2010-00044**

EXHIBIT NO.	DATE	SUBMITTED BY	DESCRIPTION
1	12/8/10	Applicant: Washington State Dept of Transportation – Scott Smithline	Wetland Application Binder: Application Form, Jarpa, Fee Payment, Correspondence, Conservation Easement, Jurisdictional Determination for Wetland J & Ecology Rating, SEPA, DAHP Letter, Site Plan Sheets, Draft Critical Areas Mitigation Report, CD (Electronic copies of all wetland & habitat permit submittals)
2	12/8/10	Applicant: Washington State Dept of Transportation – Scott Smithline	Habitat Application Binder: Application Form, Jarpa, Fee Payment, Correspondence, Conservation Easement, Jurisdictional Determination for Wetland J & Ecology Rating, SEPA, DAHP Letter, Critical Habitat Memo , Draft Critical Areas Mitigation Report, CD (Electronic copies of all wetland & habitat permit submittals)
3	1/6/11	Applicant: Washington State Dept of Transportation – Scott Smithline	Email from Applicant – Applicant recd Email dated 3/28/08 from Mark Cline re Dietrich Mitigation Site
4	1/7/2011	Applicant: Washington Department of Transportation: Scott Smithline	Correspondence from DOE, ACOE describing approved mitigation ratios
5	2/8/11	Applicant: Washington State Dept of Transportation – Scott Smithline	Letter re: Army Corps of Engineers and Dept of Ecology comments.
6	2/8/11	Applicant: Washington State Dept of Transportation – Scott Smithline	**ADDENDUM**: Revised Drawings, Corps/ECY Corespondence, Letter of Commitment, Final Mitigation Report, Appendix A – Wetland Impact Plan Sheets, , B –Cedars Grading & Planting Plans, C – Stormwater Management Design, D-Cedars Hydrographs, E – Wetland Delineation Summary, F- Cedars Mitigation Site Wetland Assessment Summary Memo
7	2/15/11	CC Environmental Services	Notice of Type II Application
8	2/15/11	CC Environmental Services	Affidavit of Sending Type II Public Notice

EXHIBIT NO.	DATE	SUBMITTED BY	DESCRIPTION
9	2/24/11	Applicant: Washington State Dept of Transportation – Scott Smithline	SCIP Final Changes and Replacement Pages
10	2/24/11	Applicant: Washington State Dept of Transportation – Dan Corlett	Cedars Hydro Connection
11	2/24/11	Applicant: Washington State Dept of Transportation – Scott Smithline	Preliminary Jurisdictional Determination Form
12	2/28/11	Thomas F. Meyer DVM	Public Comment Letter

Copies of these exhibits can be viewed at:

Department of Environmental Services
Resource Enhancement and Protection
1300 Franklin Street, STE 185
Vancouver, WA 98666-9810